

extreme variation, however, is not allowed for in the descriptions and, were a group of such forms found in an isolated station, they might easily prove puzzling. Among the specimens submitted were two buttons nearly white at first, which, after lying a few hours in the dry air of a room, turned browner, a part of the surface cracking into scales.

Such instances of variation occurring in common fungi show the necessity, so strongly emphasized by Fries, of keeping close and constant watch of plants in the field from year to year, and they further suggest the possibility that in the case of species of rare occurrence and solitary habit, such as, for instance, *Amanita strobiliformis* and its allies, it may be that forms have been kept separate which should really be closely associated.

LUXURIANT DEVELOPMENT OF SPIROGYRA CRASSA IN REFILLED PONDS.

G. E. STONE.

Spirogyra crassa, Kuetz., one of the largest species of the genus, has been under my observation, more or less, in an incidental manner, for some twelve years. A peculiar trait which I have repeatedly observed, and to which I wish to call attention, is its remarkable abundance under certain conditions. In every instance the unusual abundance of this species was connected with the drawing off the water from artificial ponds, the drying up of the bed, and the subsequent refilling. I know of four instances where ponds have become dry, and in every case there has been a luxuriant growth the following season of this species, not common before in these ponds.

In two cases the locality was the pond in the Public Garden in Boston, the first occurring in 1886, the second a few years later; the third case was that of a small pond at Spencer, Mass., in 1889; the fourth, a pond in the Agricultural College grounds at Amherst, Mass., in 1893. In all these instances the plant was so common that it almost completely covered the surface of the water, at Amherst it became a nuisance, and cartloads of the floating filaments were gathered and carried away. Similar results, to a less noticeable extent, have been observed under similar conditions in ponds in Worcester.

The Spencer and Amherst ponds are contaminated with sewage

and the Public Garden pond has a very muddy bottom. The luxuriant growth may be partly due to this. Yet the fact that the species appeared so regularly and abundantly after the reservoirs had been emptied would seem to indicate that the drying out of the soil constituents of the pond acted as a stimulus to the germination of the spores, which were dormant in the soil. In all of the localities named, this alga was more or less abundant during the second year after the ponds were emptied, although in other years, as already remarked, it was rare or absent.

The ponds being unconnected, the plant could not have originated in one and spread to the others; and the difference in dates excludes general climatic conditions from producing the results.

S. crassa is here taken in the sense in which it is used by Wolle (Fresh Water Algae of the United States). The form found in Massachusetts appears to be fairly distinct, but there may be some doubt in referring it to any particular European form.

COREOPSIS INVOLUCRATA ON THE ATLANTIC COAST. — Permit me to mention in the columns of RHODORA a plant which seems a good way from home. Several years since, Miss Sarah Fell, an enthusiastic botanist of this city, discovered in the reclaimed tide-water marshes at the junction of Christiana Creek with Delaware River, the southwestern *Coreopsis involucrata* of Nuttall. It was again found in great profusion this year by Mr. Commons, and later by myself, growing along a "marsh road." It is a fine species, not very unlike *C. trichosperma*, Michx., which is also common here. — WM. M. CANBY, Wilmington, Delaware.

[The closely related *C. aristosa*, Michx., has been twice collected on wool waste in New England: by *C. W. Swan* at Dracut, Mass., in 1894, and by *J. C. Parlin* and *M. L. Fernald* at North Berwick, Me., in 1897. *C. involucrata* may be expected in such places. — ED.]

THE DISTRIBUTION OF CERTAIN TREES AND SHRUBS IN WESTERN CONNECTICUT.

CHARLES K. AVERILL.

THE following notes on the distribution of certain trees and shrubs in the Housatonic River region of western Connecticut may be of